

**MT. CARMEL PUBLIC UTILITY CO.**

**ELECTRIC TRANSMISSION AND DISTRIBUTION  
REVIEW**

**ANNUAL REPORTING PERIOD  
2002**

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**Attachment A: - Customer Satisfaction Survey - - 2002**

**411.120 (b)(3)(A) A plan for future investment and, where necessary, reliability improvements for the jurisdictional entity's transmission and distribution facilities that will ensure continued reliable delivery of energy to customers and provide the delivery reliability needed for fair and open competition, along with the estimated cost of implementing the plan and any changes to the plan from the previous annual report.**

*i) The plan must cover all operating areas, including a description of the relevant characteristics of each*

*operating area and the age and condition of the jurisdictional entity's equipment and facilities in each operating area.*

The Mt. Carmel Public Utility Company maintains only one operating area. This territory covers approximately 107 square miles, one incorporated municipality and approximately 5,900 electric customers. Within the operating area there are two transmission substations, three distribution substations, with a total of twelve feeders, and four industrial/wholesale substations. The distribution system consists of 260.02 miles of overhead facilities and 3.94 miles of underground facilities totaling 263.96 circuit miles, with 30% of this total being urban distribution facilities.

The information regarding the age and condition of Mt. Carmel Public Utility Co. facilities is addressed in the response to section 411.120 (b)(3)(G)(I).

*ii) The plan shall cover a period of no less than three years following the year in which the report was filed.*

The budget estimates in the table below are based on a projected growth rate of 4% per year. Future estimates may be revised due to unforeseen projects and system changes as may be necessary to maintain system integrity and reliability.

Budgeted capital and operations and maintenance O&M amounts for the next three years:

<u>CATEGORY</u>	<u>YEAR</u>		
	2003	2004	2005
Transmission Capital	\$70,000	\$250,000	\$75,000
Transmission Operations & Maintenance	\$996,779	\$697,086	\$715,090
Distribution Capital	\$179,050	\$1,067,582	\$114,179
Distribution Operations & Maintenance	\$730,523	\$761,571	\$793,937
Total	\$1,976,353	\$2,776,239	\$1,698,207

Included in the value under Distribution Capital for 2003 is the expenditure of \$93,000 for the construction of approximately four miles of distribution circuit out of the South Division St. Substation.

Incorporated in the 2003 value for Transmission Operations and Maintenance is the expenditure of \$300,000 for the rebuild of a 138/69 Kva Substation transformer which failed in early 2003.

Included in the value under Distribution Capital above for 2004 are expenditures of \$1,030,000 for the construction of a new Distribution Substation.

The budgeted amount for 2004 under Transmission Capital includes \$133,000 for materials associated with the construction of a 138/69 Kv substation in connection with the distribution substation listed above.

Included in the 2003 thru 2005 values for Distribution Capital is a total expenditure of \$112,811 for the completion of the relocation of existing facilities in the Oressa Heights Subdivision.

The Mt. Carmel Public Utility Co. proposes the following improvements to ensure continued reliable electric service to its customers.

Circuit #21000:

Relocate 70 Amp line recloser from 3300 Park Rd to the intersection of Friendsville Ave

and N 1550 Blvd. This process would remove a portion of Circuit #32000 and shift it to Circuit #21000. - Completed in February 2003.

Install sectionalizing devices at two locations on Line Section #21800 which will aide in interruption control and provide for better back feed capabilities. - Completed in May of 2003.

Investigate the feasibility of relocating an existing voltage regulator currently installed on Line Section #22500 closer to the Friendsville area in an effort to maintain acceptable voltage levels on the outer edges of the circuit during peak loading seasons. Also investigate the proper placement of a capacitor bank in conjunction with relocation of the voltage regulator.

#### Circuit #22000:

Perform a switching procedure which would shift approx. one half of the area serviced by circuit #22000, which was the worst performing circuit for 2002, to Circuit #21000. Completed in April in 2003.

Investigate the need to install a new line recloser on Line Section #22100 in an effort to better protect this circuit due to the coverage area.

Review circuit interruption data to determine if the installation of more sectionalizing devices is necessary to improve reliability.

#### Circuit #31000:

Currently a portion of this circuit which is located in the Oressa Heights Subdivision is being reconstructed with underground facilities and relocated to the front of the properties due to accessibility issues. This project is scheduled to be completed in 2005.

Relocate existing recloser on Line Section #32500 to north of the intersection of N 1120 Blvd. and E 700 Rd. to improve reliability due to the coverage area of this circuit. Scheduled completion summer of 2003.

Reconfigure the existing sectionalizing switch arrangement at the intersection of Highway 15 and E 700 Rd. This would make troubleshooting easier and minimize future outage durations to customers down stream of this point. Scheduled completion summer of 2003.

#### Circuit #32000:

Reconfigure line switching scheme on this circuit at the corner of 9<sup>th</sup> and Oak so that a portion of the circuit can be shed to Circuit #17000 (Circuit #7) Scheduled completion fall 2003.

#### Circuit #33000:

Reconstruct a circuit tie between circuits #33000 and #32000 which was removed due to an I.D.O.T. road widening project in 2001. Scheduled completion fall 2003.

iii) *The plan shall identify all foreseeable reliability challenges and describe specific projects for addressing each.*

Reliability challenges have been identified in the following areas:

Tree related interruptions - The Mt. Carmel Public Utility Co. recognizes the impact that tree contact has on service reliability. Efforts to minimize interruptions due to tree contact include the installation of underground facilities, where feasible. Study and analyze areas that pose accessibility conflicts and address these situations as appropriate. Currently tree trimming is not done on a circuit wide basis rather on a scheduled plan based on the location and type of vegetation involved, as well as accessibility and weather considerations, each area is scheduled to be trimmed every three years. The Mt. Carmel Public Utility is investigating implementing a plan to begin circuit wide tree trimming with a projected return schedule of three years.

Animal related interruptions - Animal guards are installed at new transformer locations and on existing facilities as animal related problems are encountered.

Circuits with high occurrences of interruptions - Distribution circuits which have experienced high numbers of outages are studied and, where applicable, sectionalizing devices are added, line reclosers are relocated or added and, where feasible, portions are switched to another distribution circuit.

Facility accessibility - In areas where access to distribution facilities is limited studies are conducted to determine the feasibility of facility rebuild or relocation.

iv) *The plan shall provide a time table for the achievement of the plans goals.*

A schedule for completion of those items listed in sections ii and iii above is indicated for those issues that are not ongoing.

v) *The plan shall report and address all unresolved reliability complaints about the jurisdictional entity's system received from other utilities, independent system operators, and alternative retail electric suppliers.*

Mt. Carmel Public Utility Co. has received no reliability complaints from other utilities, independent system operators, or alternative retail elect suppliers.

vi) *The plan shall report the specific actions, if any, the jurisdictional entity is taking to address the concerns raised in such complaints received from other utilities, independent system operators, and alternative retail electric suppliers.*

No actions are required.

vii) *The plan must consider all interruption causes listed in Section 411.120 (b)(3)(D)*

Tree related interruptions - The interruption indicated under the heading of tree related in Section 411.120 (b)(3)(D) below occurred when wind took a limb out to a tree that was not able to be trimmed as scheduled due to the fact that the property owner was unavailable to allow personnel access to perform scheduled trimming. At the time of the outage the tree was trimmed to allow for service restoration.

Employee/Contractor Personnel Errors - The interruption indicated under the heading of employee related in Section 411.120 (b)(3)(D) below occurred when a serviceman was dispatched to disconnect the service to a customer after a third party contractor, employed by the customer, dug into the underground service drop serving the customer. The serviceman accidentally cut an underground service on the same pole which served another customer. Upon becoming aware of the error the serviceman returned to the site and remedied the situation appropriate to each service.

viii) *The plan must consider the effects on the customers and the cost of reducing the number of interruptions reported as required by Section 411.120 (b)(3)(C).*

- Animal Control - Animal guards are installed at new transformer locations and on existing facilities as animal related problems are encountered.
- Circuit Switching Operations - During circuit switching operations substation voltages are monitored to ensure load switching capability is adequate.
- Circuit Load Analysis - Load surveys are performed periodically on distribution circuits during peak usage seasons, when the need arises, capacitors are utilized. Also as circuit characteristics change voltage regulators and/or capacitors may be relocated or installed in an effort to maintain acceptable voltages.
- Distribution Substation Maintenance - Distribution substation equipment (breakers, relays, transformers, batteries, oil samples, etc.) are tested on set schedules to ensure proper operation.
- Distribution Line Recloser Maintenance - Line reclosers are serviced or replaced on a scheduled basis. Counter readings are taken periodically to determine if maintenance is required prior to scheduled service.
- Distribution Circuit Inspections - Distribution circuits are inspected randomly or following events, such as major storms, which damage individual circuits or the system as a whole. As defects are found they are repaired as necessary.
- Outage Analysis - Periodically, as circuit outage data is compiled, it is analyzed to determine what action, if any, can be taken to minimize the interruptions occurring on the circuit.
- Tree Trimming - Currently tree trimming is not done on a circuit wide basis rather on a scheduled plan based on the location and type of vegetation involved, as well as accessibility and weather considerations. The Mt. Carmel Public Utility is investigating implementing a plan to begin circuit wide tree trimming with a projected return schedule of three years.
- Underground Equipment - Existing underground facilities are studied as failure occurs; Where feasible, design changes are made to that portion of the circuit during the repair process in an effort to ensure future reliability. New underground facilities are installed in conduit and, where applicable, circuit loops are constructed.

The cost of the points listed above is incorporated into Mt. Carmel Public Utility Co.'s capital and operations & maintenance budgets as indicated in Section 411.120 (b)(3)(A)(ii) above.

**411.120 (b)(3)(B) A report of the jurisdictional entity's implementation of this plan filed pursuant to subsection (b)(3)(A) of this Section for the previous annual reporting period, including an identification of significant deviations from the first year of the previous plan and the reasons for the deviations.**

The Mt. Carmel Public Utility was not required to file a report in 2002.

**411.120 (b)(3)(C) The number and duration of planned and unplanned interruptions for the annual reporting period and their impacts on customers.**

2002 Planned (scheduled) Interruptions and Duration - There were 2 interruptions that impacted 93 customers with an average duration per outage (duration minutes ÷ interruptions) of 25 minutes.

2002 Unplanned (unscheduled) Interruptions and Duration - There were 246 interruptions that impacted 21,283 customers with an average duration per interruption (duration minutes ÷ interruptions) of 83.69 minutes.

**411.120 (b)(3)(D) The number and causes of controllable interruptions for the annual reporting period.**

Number and Causes of Controllable Interruptions for reporting year - 2002

Interruption Cause Categories	Number of Interruptions
Animal Related	0
Tree Related	1
Employee/Contractor Personnel Errors	1
Underground Equipment Related	0
Transmission/Substation Equipment	0
Weather Related	0
Scheduled	0
Other Alternative Supplier/Utility	0
Customer Equipment	0
Public	0
Overhead Equipment Related	0
Unknown	0
TOTAL	2

**411.120 (b)(3)(E) Customer service interruptions that were due solely to the actions or inactions of another utility, another jurisdictional entity, independent system operator, or alternative retail electric supplier for the annual reporting period.**

There were no interruptions due to another utility, another jurisdictional entity, independent system operator or alternative retail electric supplier.

**411.120 (b)(3)(F) A comparison of interruption frequency and duration for customers buying electric energy from the jurisdictional entity versus customers buying electric energy from another utility or alternative retail electric supplier for the annual reporting period. A jurisdictional entity may base this comparison on each customer's supplier as of December 31 of each year. A jurisdictional entity need not include information for customers whose electric energy supplier is not known to the jurisdictional entity.**

No customers were supplied by another entity in 2002

**411.120 (b)(3)(G) A report of the Age, current condition, reliability and performance of the jurisdictional entity's existing transmission and distribution facilities, which shall include, without limitation, the data listed below. In analyzing and reporting the age of the jurisdictional entity's plant and equipment the jurisdictional entity may utilize book depreciation. Statistical estimation and analysis may be used where actual ages and conditions of facilities are not readily available. The use of such techniques shall be disclosed in the report.**

*i) A qualitative characterization of the condition of the jurisdictional entity's system defining the criteria used in making the qualitative assessment, and explaining why they are appropriate.*

Mt. Carmel Public Utility Co's transmission facilities have an approximate average remaining life of 11.3 years. The distribution facilities have an approximate remaining book life of 10.02 years. These figures are based on analysis completed 12/31/2002.

*ii) A summary of the jurisdictional entity's interruptions and voltage variances reportable under this Part, including the reliability indices for the annual reporting period.*

The number of planned/unplanned outage events for 2002 was 248



The System Reliability Indices for 2002 are as follows:

SAIFI	3.59
CAIDI / Min	83.54
CAIFI	3.59

*iii) The jurisdictional entity's expenditures for transmission construction and maintenance for the annual reporting period expressed in constant 1998 dollars, the ratio of those expenditures to the jurisdictional entity's transmission investment, and the average remaining depreciation lives of the entity's transmission facilities, expressed as a percentage of total depreciation lives.*

The total depreciated cost of transmission plant in service is \$3,949,968 and the average remaining depreciation lives is 56.5%. The 2002 capital expenditure for transmission plant, expressed in constant 1998 dollars, was \$46,318 and the maintenance expenditure, expressed in constant 1998 dollars, was \$77,437 for a total of 3.133% of depreciated plant in service and 1.8% of original cost. No expenditures for operations are included in these calculations.

*iv) The jurisdictional entity's expenditures for distribution construction and maintenance for the annual reporting period expressed in constant 1998 dollars, the ratio of those expenditures to the jurisdictional entity's distribution investment, and the average remaining depreciation lives of the entity's distribution facilities, expressed as a percentage of total depreciation lives.*

The total depreciated cost of distribution plant in service is \$5,683,386 and the average remaining depreciation lives is 46.6%. The 2002 capital expenditure for distribution plant, expressed in constant 1998 dollars, was \$450,335, or 4.84% of the distribution investment. Maintenance expenditures, expressed in constant 1998 dollars, were \$330,874, or 5.33% of the distribution investment. These total expenditures represent 13.74% of depreciated distribution investment and 7.33% of total distribution investment. No operations expenditures were included in these calculations.

*v) The results of a customer satisfaction survey completed during the annual reporting period and covering reliability, customer service, and customer understanding of the jurisdictional entity's services and prices.*

This information is provided in Attachment "A"

*vi) An overview pertaining to the number and substance of customers' reliability complaints for the annual reporting period and their distribution over the jurisdictional entity's operating areas*

The Mt. Carmel Public Utility Co. has received no informal or formal reliability complaints to the Illinois Commerce Commission in the annual reporting period.

*vii) The corresponding information, in the same format, for the previous 3 annual reporting periods if available.*

This information is not available for Section 411.120 (b)(3)(G) parts i thru iv above as Mt. Carmel Public Utility was not required to report prior to 2003.

Customer Satisfaction Survey - Section 411.120 (b)(3)(G)(v)

The results of Customer satisfaction surveys for the years 2000, 2001 and 2002 are incorporated into Attachment "A" as submitted under Section 411.120 (b)(3)(G)(v) above.

Customer reliability Complaint Overview - Section 411.120 (b)(3)(G)(vi)

The information for informal or formal reliability complaints to the Illinois Commerce Commission is unavailable, none are believed to have been made.

**411.120 (b)(3)(H) A table showing the achieved level of each of the three reliability indices of each operating area for the annual reporting period (provided, however, that for any reporting period commencing before April 1,**

**1998, a jurisdictional entity will not be required to report the CAIFI reliability index)**

The System Reliability Indices for 2002 are as follows:

SAIFI	3.59
CAIDI / Min	83.54
CAIFI	3.59

**411.120 (b)(3)(I) A list showing the worst-performing circuits for each operating area for the annual reporting period with the understanding that the designation of circuits as “worst-performing circuits” shall not, in and of itself, indicate a violation of this Part.**

Worst-Performing Circuit(s) for reporting period - 2002

SAIFI (Outages ÷ Customer s Served)	CAIDI / Min (Duration ÷ Outages)	CAIFI (Outages ÷ Customers Impacted)
22000 (Allendale Feeder) - 3.82	22000 (Allendale Feeder) - 152.70	22000 (Allendale Feeder) - 3.82

**411.120 (b)(3)(J) A statement of the operating and maintenance history of circuits designated as worst-performing circuits; a description of any action taken or planned to improve the performance of any such circuit (which shall include information concerning the cost of such action); and a schedule for the completion of any such action. (The jurisdictional entity may decide, based on cost considerations or other factors, that it should take no action to improve the performance of one or more circuits designated as worst-performing circuits. If the jurisdictional entity decides to take no action to improve the performance of one or more circuits designated as worst-performing circuits, the jurisdictional entity shall explain its decision in its annual report.)**

As indicated in the table used in response to 411.120 (b)(3)(I) above, circuit #22000 (Allendale Feeder) carried the highest values for all of the specified indices.

Operating and Maintenance History:

2002

July - Replaced existing line recloser located at the beginning of Line Section #22100 due to damage from lightning strikes.

September - Replaced voltage regulators located on Line Section #21000 at the intersection of E 1200 Rd. and N 1920 Blvd. Also installed 100 Kvar capacitors at 18361 E 1200 Rd.

December - Installed underground loop in Cherry Hills Subdivision.

2003

April - Performed line switching procedure which shifted approximately one half of the area serviced by Circuit #22000 to Circuit #21000.

May - Began extensive tree trimming program.

Planned Actions to Improve Reliability:

2003

Continue extensive tree trimming program.

**411.120 (b)(3)(K) Commencing June 10, 2001, tables or graphical representations, covering for the last three years all of the jurisdictional entity’s customers and showing, in ascending order, the total number of customers which experienced a set number of interruptions during the year (i.e., the number of customers who experienced zero interruption, the number of customers who experienced one interruption, etc.)**

<u>Number of Outages Experienced</u>	<u>Number of Customers</u>
0	0
1	0
2	1672
3	1984
4	647
5	755
6	567
7	204
8	87
9	7
10	0

**411.120 (b)(3)(L) Commencing June 10, 2001, for those customers who experienced interruptions in excess of the service reliability targets, a list of every customer, identified by a unique number assigned by the jurisdictional entity and not the customers name or account number, the number of interruptions and interruption duration experienced in each of the three preceding years, and the number of consecutive years in which the customer has experienced interruptions in excess of the service reliability targets.**

There were no customers who experienced interruptions which meet or exceed the criteria set forth in the above section.

**411.120 (b)(3)(M) The name, address and telephone number of the jurisdictional entity representative who can be contacted for additional information regarding the annual report.**

For further information concerning this report, contact:

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